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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/789,637 | 02/27/2004 | Brian S. Schieck | NVID-P001125 | 7655 |
| 45504 7590 04/22/2009 NVIDIA C/O MURABITO, HAO & BARNES LLP TWO NORTH MARKET STREET THIRD FLOOR SAN JOSE, CA 95113 | | | | |
| EXAMINER DUONG, KHANH B | | | | |
| ART UNIT 2822 | | PAPER NUMBER | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/789,637

Applicant(s)

SCHIECK ET AL.

Examiner

KHANH B. DUONG

Art Unit

2822

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 8-12 and 19-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-5, 13, 14 and 18 is/are rejected.
- 7) ☒ Claim(s) 2, 6, 7 and 15-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)
- Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

This office action is responsive to the amendment filed on December 29, 2008.

Accordingly, claims 4 and 5 were amended.

Claims 8-12 and 19-35 remain withdrawn from further consideration as being drawn to a non-elected invention.

Claims 1-7 and 13-18 remain active.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, 13, 14 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Motika et al. (U.S. 5,807,763).

Re claim 1, Motika et al. ("Motika") discloses in FIG. 1 a semiconductor die 102 comprising: a conductive test signal bump 140 for transmitting test signals off of said semiconductor die 102; a test signal redistribution layer trace 126 for communicating said test signals to said conductive test signal bump 140, wherein said test signal redistribution layer trace 126 is included in a redistribution layer (126/132/134) and said test signal redistribution trace 126 is disposed such that multiple test signals are accessible at varying degrees of electronic component granularity within said die 102 and along said test signal redistribution layer trace 126, said test signal redistribution layer trace 126 communicatively coupled to said conductive

test signal bump 140; and a test probe 136 point for accessing said test signals in said semiconductor die 102 and for electrical coupling to said redistribution layer.

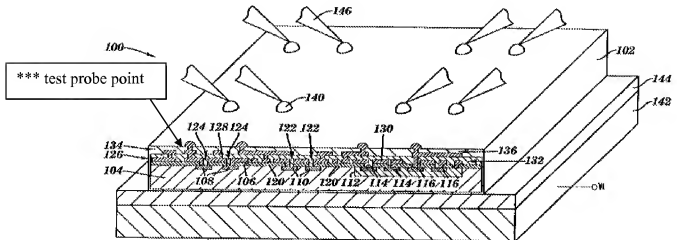


FIG. 1

Re claims 3-5, the claims recite the following product-by-process limitations: "accessible by drilling" (claim 3); "a focused ion beam (FIB) pad accessible by focused ion beam drilling and conductive material backfill" (claim 4); and "conductive material backfill" (claim 5). However, these limitations have not been given patentable weight because product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Thus, as shown in FIG. 1 of Motika above, the test probe point 136

comprises a bonding pad 136 which is coupled to said test signal redistribution layer (126/132/134), wherein the bonding pad 136 is communicatively coupled to said test signal redistribution layer trace 126 by a conductive material backfill.

Re further claim 5, the claim recites “wherein said test signal redistribution layer trace is dedicated for test signals”. However, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987).

Re claim 13, Motika expressly discloses a semiconductor device in FIG. 4 comprising: a package substrate 240 for communicating test signals on an external access point 252; wherein said package substrate 240 includes a conductive trace 244 disposed such that multiple test signals (from probes 250) are accessible at varying degrees of electronic component granularity along said conductive trace 244; and a semiconductor die 234 having test probe points accessible by said external access point 252, wherein said semiconductor die 234 is electrically coupled to said package substrate 240.

Re claim 14, Motika expressly discloses in FIG. 4 said package substrate 240 comprises: a first surface with ball grid array; a second surface with conductive contacts for electrically coupling with conductive bumps of said semiconductor die 234; and a trace 244 for electrically coupling one of said conductive contacts to said external access point 252.

Re claim 18, Motika discloses said external access point 252 is accessible by automatic test equipment [see col. 7, lines 29-33].

Allowable Subject Matter

Claims 2, 6, 7 and 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed December 29, 2008 have been fully considered but they are not persuasive.

Applicant persistently argues that Motika does not teach the semiconductor die comprising a test probe point for accessing the test signals in the semiconductor die. In response, the Examiner respectfully disagrees because Motika clearly shows in FIG. 1 a test probe 136 point for accessing said test signals in said semiconductor die 102 and for electrical coupling to said redistribution layer (126/132/134).

Applicant persistently argues that Motika does not teach “the test signal redistribution trace is disposed such that multiple test signals are accessible at varying degrees of electronic component granularity within the die and along the test signal redistribution trace”. In response, the Examiner respectfully disagrees because Motika clearly shows in FIG. 1 the test signal redistribution trace 126 is disposed such that multiple test signals are accessible at “varying degrees of electronic component granularity” within the die 102 and along the test signal redistribution trace 126. The “varying degrees of electronic component granularity”, in this case, can be interpreted as various number of electronic components on the substrate 104 within the die 102. Thus, the Examiner respectfully submits that no matter where a test point is moved

along the redistribution trace 126, it is limited to various number of electronic components within the die 102.

Applicant further argues that Motika does not teach “a test signal redistribution layer trace is dedicated for test signals”. In response, the Examiner respectfully disagrees because it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987).

Conclusion

Applicant's amendment necessitated the above ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHANH B. DUONG whose telephone number is (571) 272-1836. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on (571) 272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Khanh B. Duong/
Examiner, Art Unit 2822

/Zandra V. Smith/
Supervisory Patent Examiner, Art Unit
2822